CW#200: Area in the Coordinate Plane

Geometry

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP:\_\_\_\_\_

|  |  |
| --- | --- |
| You will be able to find the area of a shape in the coordinate plane. | |
| |  | | --- | | Find the area of the triangle below:  ../../../../../Desktop/Screen%20Shot%202016-05-01%20at%201.27.29%20PM |   Suppose you are given the problem shown on the right:  a) What is the question asking you for?   b) What mathematically important information is given in the problem?    c) What prior knowledge do you have about the information you mentioned in part b above?    d) Based on your answers to a-c, what strategy would you use to answer the problem? | |
| 1. Find the area of triangle ABC below.  ../../../../../Desktop/Screen%20Shot%202016-05-01%20at%201.28.57%20PM | 1. Find the area of the trapezoid shown below.  ../../../../../Desktop/Screen%20Shot%202016-05-01%20at%201.30.34%20PM |
| 1. ../../../../../Desktop/Screen%20Shot%202016-05-01%20at%201.39.06%20PM 2. What do you know about the side lengths of a square? 3. How should you find the length of a segment when it is diagonal? 4. Find the area of the square ABCD. | |
| 1. a) Given the same square in number 3, square ABCD, write the linear equation of the line that goes through points AB (in slope intercept form, y=mx+b)      b) Write the linear equation of the line that goes through points CD. What is similar about the equation? What is different? | |

|  |  |  |  |
| --- | --- | --- | --- |
| You will be able to graph linear equations in order to create a shape in the coordinate plane. | | | |
| 1. ../../../../Math%20Materials%20-%20KMR/Images/Coordinate_Grid_XYAxis.PNG | | Graph the following three lines on the grid provided.   1. The three lines create a triangle. List the coordinates of the three vertices: 2. Find the area of the triangle ABC. | |
| Directions: For the following problems, create graphs on graph paper either in your notebook or on a separate piece of paper (attached to the CW). For each problem: a) Graph the lines b) Label the coordinates of each vertex c) Find the area of the shape. | | | |
|  | |  | |
|  | 1. The lines in number 8 create a square.   Based on your graph, exactly how many linear equations are required to create a square in the coordinate plane?   How many linear equations are required to create a triangle?   How does this related to the number of sides in each shape? | | 1. Prove that the shape you created in problem 8 is a square by either proving all interior angles are 90° or proving that all sides are of equal length. |

|  |  |  |
| --- | --- | --- |
| You will be able to write the bounds of a shape in the coordinate plane as a system of linear equations. | | |
| Directions: Graph the given coordinates for the vertices of the triangles below. Then write a linear equation for each side of the triangle (3 different linear equations!) | | |
| 1. A = (2,4) B = (-1,2) C = (2,0) | 1. A = (3,5) B = (-1,4) C = (2,-2) | 1. A = (2,10) B = (-4,-4) C = (10,0) |

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

HW#200: Area in the Coordinate Plane

Geometry

Due: Friday, May 6th

FAILURE TO SHOW ALL WORK OR COMPLETE ALL PROBLEMS WILL RESULT IN LASALLE.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Directions: Find the area of each shape below. Show all work. | | | | |
| 1. ../../../../../Desktop/Screen%20Shot%202016-05-01%20at%203.37.19%20PM | | | 1. ../../../../../Desktop/Screen%20Shot%202016-05-01%20at%203.37.48%20PM | |
| Directions: Graph the following linear equations and describe the shape that is created. Graphs are either in your notebook or attached on a separate piece of graph paper. | | | | |
| Shape: | | Shape: | | |
| Directions: Graph the given coordinates for the vertices of the triangles below. Then write a linear equation for each side of the triangle (3 different linear equations!) | | | | |
| 5. A = (0,2)  B = (6,4)  C = (2,8) | yAB =   yBC =   yCA = | 6.  A = (0,0)  B = (4,8)  C = (-2,6) | | yAB =   yBC =  yCA = |